RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GEOFFREY S.M. HEDRICK

Appeal 2007-2519
Application 10/616,208
Technology Center 2100

Oral Hearing Held: August 8, 2007

Before ANITA PELLMAN GROSS, JOSEPH RUGGIERO, and
ST. JOHN COURTENAY, III, *Administrative Patent Judges*

ON BEHALF OF THE APPELLANT:

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The above-entitled matter came on for hearing on Wednesday, September 12, 2007, commencing at 10:05 a.m., at The U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Laurel P. Platt, RDR, CCR No. 0313203, Notary Public.

THE CLERK: Appeal number 2007-2519, and the attorney is Lance Lieberman.

MR. LIEBERMAN: Lance Lieberman for Geoffrey Hedrick.

I don't want to waste your time going over my brief. What I thought I would do is discuss briefly what the invention, the claims invention is, talk about the reference, because I think the primary misunderstanding here with the examiner's position is what the reference actually teaches and what it doesn't teach.

As I said in my brief, in our brief, the appellant's claimed invention is directed to a system and a method for facilitating direct user entry of a manually-adjustable data setting that is normally imaged in a predetermined size by imaging displayed in an aircraft cockpit.

Today, in aircraft such as those and aircraft displays such as that to which the present invention and the reference is directed, flat-panel displays have -- large flat-panel displays have replaced the various steam gauges in instrument flight, which is probably the most difficult thing you can learn to do when you fly.

It's important your eyes are constantly moving around all the instruments because failure to -- if you focus too intently on one instrument, and you don't constantly focus on all of the instruments, you can very quickly get in a situation, a John Kennedy situation, where suddenly your attitude is one wing way down, and you plunge into the ground.

On these new flat-panel displays there's a huge amount of information being projected in a single display, which is typically 12 by 9 inches or something along that size.

Because of that, when the pilot is called on to reset different parameters or to do different things during flight that are not directly related

to flying the airplane, the attention must be focused on the task at hand and taken away from scanning the instruments to be sure it's pertaining to altitude and attitude and all the other things you need to do.

Many of the things that you are required to set during flight are things which come up continuously. Local barometric pressure, which I used in the application, for instance, is a very common one. It's reset in every hour of flight at altitudes from below 18,000 feet. You probably reset that a dozen, maybe 18 times, as you pass from controller to controller, so the local altimeter setting has to be reset.

A mistake in setting this -- and it's very easy to make that kind of mistake -- a one-inch mistake in attitude from 29.92 to 28.92 is a thousand foot difference. It puts you in the path of approaching aircraft rather than where you should be.

On steam gauges, on the old steam gauges it's very simple. You twist a little knob, a little window on the altitude indicator, and it shows you -- you watch it go up and down as you control in the window where you are. But on the new flat-panel displays, you're either punching into a key pad or you're rotating a little knob and you're watching a number, a very small number on a huge display change. It's very easy to make a mistake.

Other things you're asked to do: You need to constantly change frequencies with new controllers. Very easy and very common -- I'm a pilot myself -- very common to put the wrong frequency in. You go back to the controller and say what was that frequency again.

You are doing so many things at the same time. There's so many things you have to do.

They're asking you at the same time to get the weather of the approaching airports. You have to change your flight plan because suddenly

aircraft control wants you to detour around some other aircraft. So you are doing all these things at the same time.

JUDGE COURTENAY: Is there any situation that you are aware of where a pilot would implement a stylus? I notice that you have that disclosure in your first paragraph --

MR. LIEBERMAN: Not presently. It's something the client brought up as a possible thing for the future, but I've never seen it, and I'd be surprised. It's just a need to have to either pick up a stylus.

I mean it's one thing -- there are displays where you hit your finger on something and choose something from a menu which is a touch-sensitive display. But to have to use a stylus when you are doing all these other things at the same time is kind of crazy.

JUDGE COURTENAY: So to your knowledge, pilots do not use styluses.

MR. LIEBERMAN: Not to my knowledge. I'd be surprised if something like that would be really done because in a single aircraft IFR, there's too much workload.

I'm constantly dropping pens in the cockpit anyway and not being able to write down something the controller gives me, so it's enough to find a pen that I drop down. You usually keep it wrapped around your neck on a string or something so you can pick it up right away.

JUDGE COURTENAY: So the only disclosure that you are aware of a pilot using a stylus to implement --

MR. LIEBERMAN: As a suggestion of one of the ways that you could implement it, that's correct.

Turning to the claims here, the claims are very specific. The claims are drawn to one of these types of controls where it's a control for adjusting

a manually manipulable something to -- a manually-adjustable data setting which is manipulated by a control. It's a manually- manipulated control which somehow you adjust some kind of a data setting, which is normally an image on the display.

The idea is whenever you touch this thing, whenever you start to make that change, the thing pops up into a window, and you can't possibly miss it. And that's important because even though you know where it is, having to concentrate on that small part of the display takes your attention away from all the other things going on at the same time.

So two things happen here. One, we have this control which adjusts the manually-adjustable data setting which is displayed in a single way.

When you touch it, when you start to move it, it opens up. The window enlarges. You see it as you are adjusting it. And when you take your fingers away from the control, when you stop adjusting it, the thing returns to its normal size. That's very important because you don't want it sitting there in front of all your other instrumentations.

One of the reasons we talk about that it doesn't block the entire view behind it because you still have to be able to watch what else is going on at the same time in the various instruments which are depicted on the display.

There's two important things here. One is that as you manipulate the control, the thing enlarges; and when you stop manipulating the control, it reduces in size to its normal size again. That's very important.

Now, the examiner cites this Feyereisen reference which shows one of these flat-panel displays. This is the kind of display we are talking about.

What Feyereisen says is that gee, you know, it's directed to a problem which is related but not the same. In Feyereisen, Feyereisen says, look, we've got these big displays and all this information here, and the pilot's

attention gets tunneled or directed to one thing too often, and what do we do then?

Because if you lose attention -- you've got all these things going on -- you start concentrating on one thing and, gee, well, that's interesting. What's going on over here? And suddenly your attitude is like this and you are headed down in a different direction or your altitude is changing, and you've got planes coming the other direction.

What they say is, well, we have an algorithm. We are going to figure out what kind of flights you're in. We're going to figure out whether you're in cruise mode, which is basically steady-state level flight from one point to another in the air system, or maybe you are in a climb or maybe you are in ground operations.

We are going to figure out where you are by all the inputs that we get from all the data which is on the aircraft bus which is generated by all the various sensors around the aircraft, and we are going to emphasize different portions of the display. They do say that one way to emphasize is by enlarging or changing the font or the color somehow.

JUDGE COURTENAY: Your position is that's done automatically.

MR. LIEBERMAN: It's not only done automatically, but there's no way to return it back when you stop doing something.

The examiner's position is, well, you know, to start a climb, for example, in an aircraft you have got to be doing something. The pilot must be doing something; and therefore, they must be operating some kind of a control for doing the climb. In a climb, it's probably going to show you the altitudes. It doesn't say that, but it's probably going to somehow emphasize the altitude indicator.

Okay. Now you are in a steady state climb, 500 feet per minute. You ramp up your power, your manifold pressure depending on how the aircraft is constructed, and the aircraft starts to climb. Okay. Well, aren't you enlarging that in response? Yes, you are. But that's not a manually-operable setting for changing a particular thing on display.

But more importantly, when you ramp it up to 500 feet, you're ramping up to a particular power setting, and then you stop. The aircraft continues to climb at 500 feet per second.

That's how an airplane works. You don't constantly keep ramping it up and keep climbing and climbing. You ramp it to a particular place and reach a steady-state position. The aircraft climbs until you want to stop.

According to our invention, if Feyereisen is operated in accordance with our invention, while you're watching altitude, suddenly once you take your hands off the power level because you've adjusted it to where you wanted to climb, the thing goes back to where it was.

Of course, Feyereisen says as long as you are in a climb -- I'm going to emphasize. The only reason I'm going to de-emphasize is now you enter a different state of operation, a different phase of operation. Maybe you reach a steady-state operation. Maybe you reach a target altitude. Maybe I want to highlight the target altitude.

So it's a different concept of an invention. It's not what we are doing. It's kind of like -- and it's not a great analogy, but the best I could come up with was if I'm operating a motor vehicle, and I have my speed shown on the screen, shown on the dashboard, and -- yeah, if I push my foot down on the gas, that's going to increase that.

But what the examiner says is -- wait a minute. He says, well, in Feyereisen there is a TCAS, a traffic collision avoidance system, which

basically is a system that throws up on the display aircraft around you and warns you in different modes of operation.

You can have it off, or you can say the transponder says, hey, here is different aircraft around you. And then there's a super mode which says here is aircraft around you. I'm going to tell the TCAS and the other plane he should dive, and you should climb, so that the two of you will move away from each other.

So these TCAS systems are fairly common. Typically, they're in separate devices. So now you've got all these instruments you're looking at, and you've got to keep looking at the TCAS system.

So what Feyereisen says is let's take the TCAS stuff, which is still driven by the separate thing, and let's put the bogie, essentially, on my big flat-panel display so you can see them.

The TCAS system has a button, button 46, and it says okay, you can change to a different operating mode, whether it's off or you show some of the aircraft or you tell it how to avoid the aircraft as well.

And I'm going to put a little tiny text box on the big display showing you what mode you are in. Okay?

So that's kind of like me saying, well, in my car when I put it into drive and I put my foot on the gas, I'm going to increase speed. I'm going to show my speed on the dashboard is going to increase.

Well, so that button is kind of like me putting the car into park or putting it into drive. That's so far removed from what you are doing. That's not a manually-operated control for adjusting the data setting.

JUDGE COURTENAY: So your position is this control is associated with the TCAS and has no nexus with this.

MR. LIEBERMAN: Correct.

JUDGE COURTENAY: The other disclosure we have of the phase of the flight is basically determining the enlargement of a particular indicator --

MR. LIEBERMAN: Correct, and more importantly, bringing it back again to regular condition when you stop fiddling with it.

JUDGE COURTENAY: We understand your position clearly. Would you address the secondary reference?

MR. LIEBERMAN: Sure.

JUDGE COURTENAY: Could you particularly address the issue of hindsight in light of KSR and the secondary reference.

MR. LIEBERMAN: Well, Amro is a PDA. All it says is -- it's an example of many such references -- a PDA in which you want to enter data with a stylus.

It's true that I don't know anything with an aircraft, but we did say in the application you could use a stylus for entering data. But in a PDA, obviously you've got a very small screen, and you want to be able to enter data, and the part where you enter data is small, so you tap on the screen and open the window up. You enter the data, and you tap on it again, and it goes away.

It's not sensing that you no longer do anything to reduce the size of the display. All it's actually doing is tell me when you want to resize the display.

That's not what this invention is. That's not what the claimed invention is. Amro was directed to a different purpose. Amro is directed to a similar purpose as our invention because our invention is directed to facilitating data entry, essentially, in a system.

But Feyereisen is directed to reducing pilot workload, as the Feyereisen reference says, reducing pilot workload from IFR workload,

which is instrument workload where you don't have any visual cues -- you're just operating on the instruments -- to visual workload where basically you are flying by the visual cues. You're looking at the instruments only once in a while.

In fact, when you first learn to fly, visually the worst thing you do is constantly look at the instruments because you look at what's outside. That's a very easy way to fly and gives you a good way of doing it.

So, the two of them are not -- this is a classic case of hindsight in construction. We are pulling references from different things here, none of which really focus on what we are doing, but even with a combination doesn't result in it; but in these references we are kind of building a combination based on what the invention says here rather than what the person with skill would say.

Do I learn anything from Amro that I could actually apply to Feyereisen to fundamentally change what it does, and I don't believe that you can. I don't think it makes any common sense to do that.

JUDGE COURTENAY: What about the argument that the combination might be familiar elements which are combined using known methods to realize a predictable result? Would you respond to that?

MR. LIEBERMAN: I respond to that by saying the result, which has to be defined in terms of the applicant's invention, the appellant's invention, is not the result that's provided by either of the references. Amro doesn't -- and neither reference shows, for example, closing the window or reducing the size of the window in response to a cessation, sensing a cessation of the user's manipulation.

JUDGE COURTENAY: The secondary reference requires an act of intervention by the user to basically close the window and return it to its original size.

MR. LIEBERMAN: That's correct.

JUDGE COURTENAY: Your invention requires a cessation of control.

MR. LIEBERMAN: Right. It senses -- it operates based on what the user is actually doing. It senses the user's actions rather than a context or rather than waiting for another --

JUDGE COURTENAY: Can you point that out in your claim?

MR. LIEBERMAN: Okay. In claim 1, the last paragraph, reducing the enlarged image of the data setting on the display to the predetermined size when it senses manipulation of the control determines to have ceased.

JUDGE COURTENAY: Okay.

MR. LIEBERMAN: Thank you.

JUDGE COURTENAY: Thank you very much.

(Whereupon, at 10:20 a.m. the proceedings were concluded.)